Global Argus

Indications and Warnings to Detect and Track Biological Events

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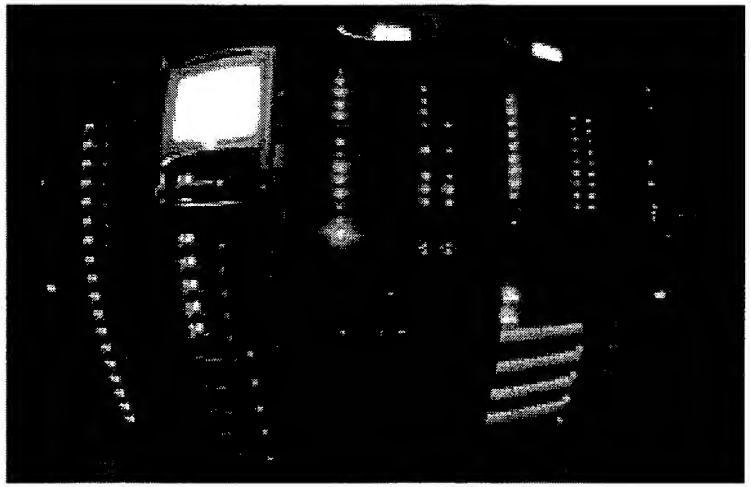
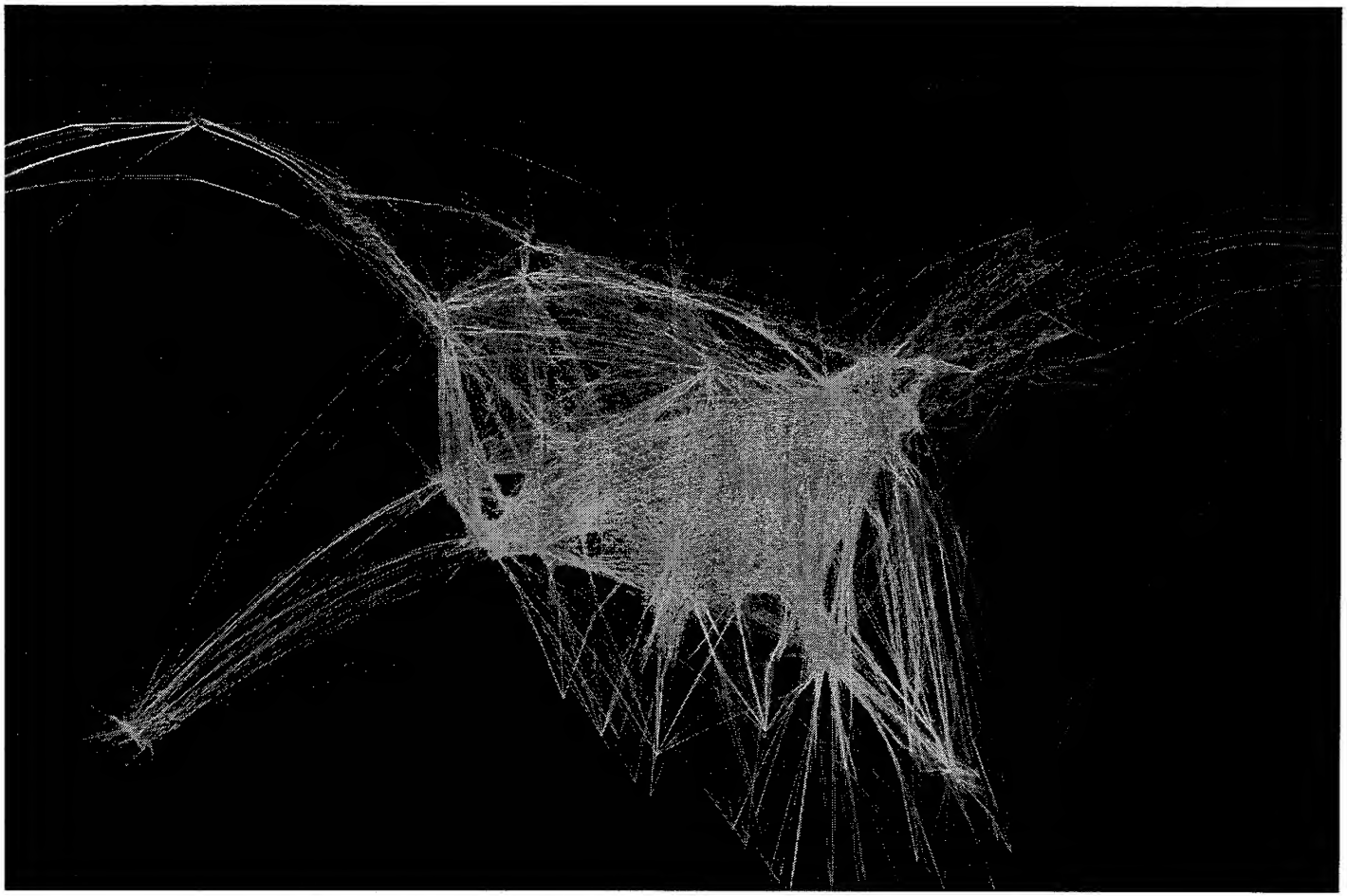
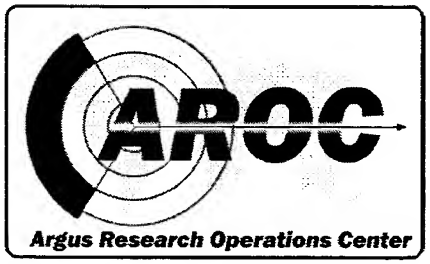


Global Human Online Chatter…

US Connectivity to Global Air Traffic

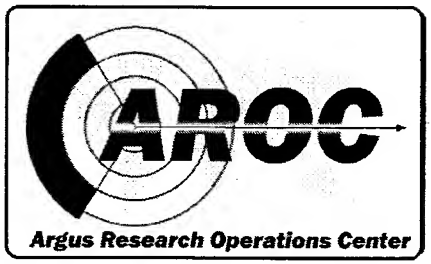


Goal



Create and implement a global biological event detection and tracking capability that provides early warning alerts.

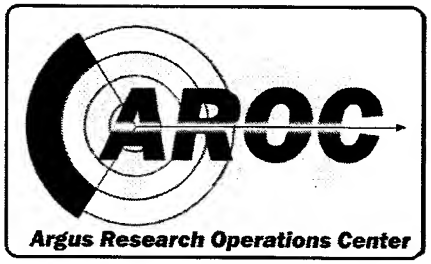
Argus: A Radar for Social Disruption



- Epidemics cause social disruption.

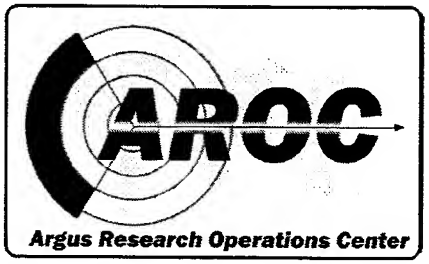
- Social disruption is a common feature that can be tracked and used *in lieu* of direct reporting of disease:
  - ➢ Direct Markers
    - Unusual disease reported
  - ➢ Indirect Markers
    - – Demand for medical services
    - – Local perception of threat
    - – Official acknowledgement of threat
    - – Official action against threat
    - – Integrity of infrastructure

The Wilson-Collmann Scale



- **Stage 1-** unifocal biological event
- **Stage 2-** multi-focal biological event
- **Stage 3-** biological event is inducing infrastructure strain
- **Stage 4-** social collapse
- **Stage P-** observation of a country assuming preparatory posture

Staging	Public Health Analogy
Stage 1	"Outbreak"
Stage 2	"Epidemic"
Stage 3	n/a
Stage 4	n/a
Stage P	n/a



- Earliest biological event detection
- Highest sensitivity of tracking of biological events
- Monitoring of therapeutic & response efficacy
- Actionable advisories

Event Evolution "EKG"- 1957 Pandemic Influenza

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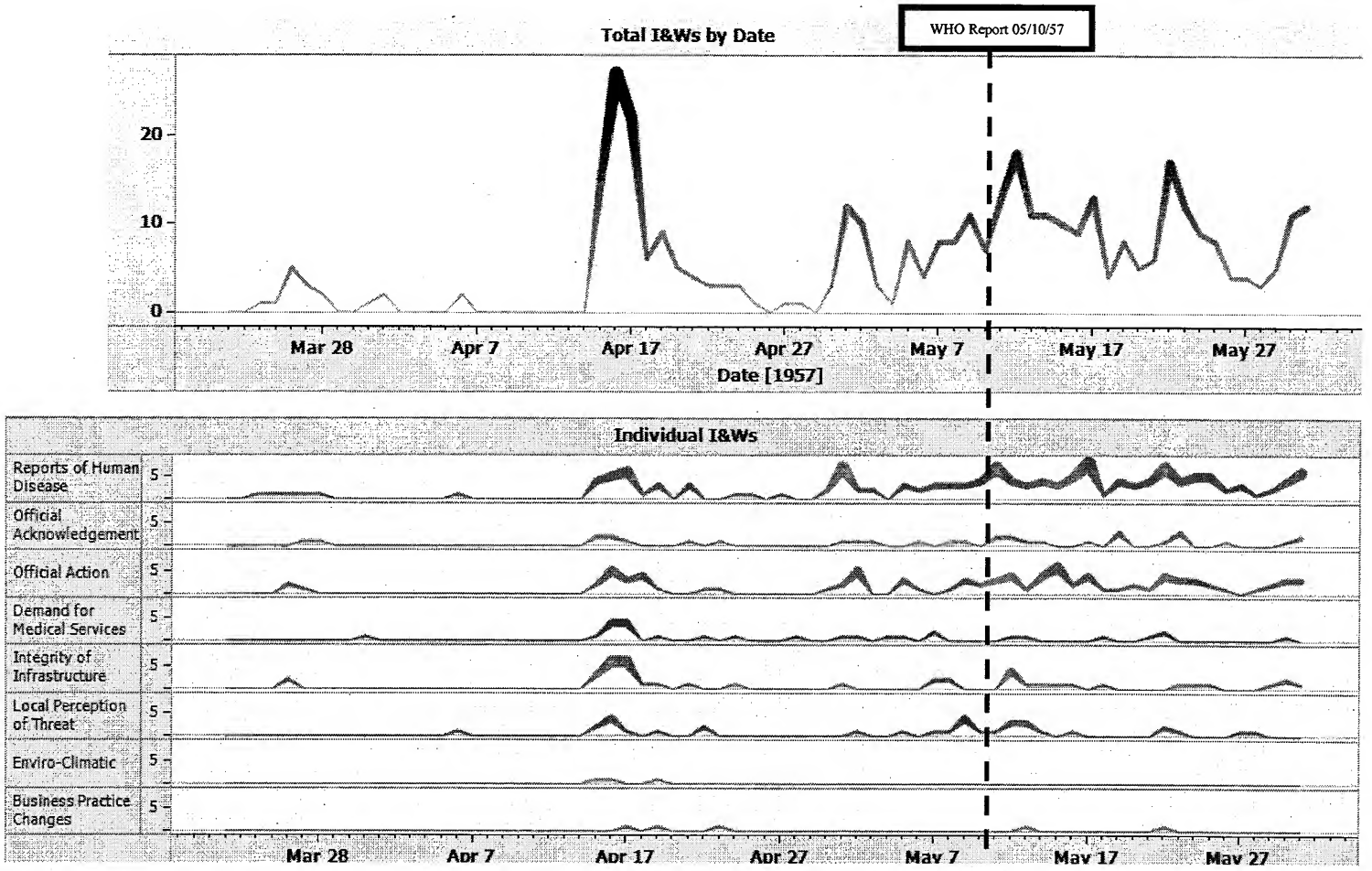

1968 Pandemic Influenza – Spark Lines of I&W Signal

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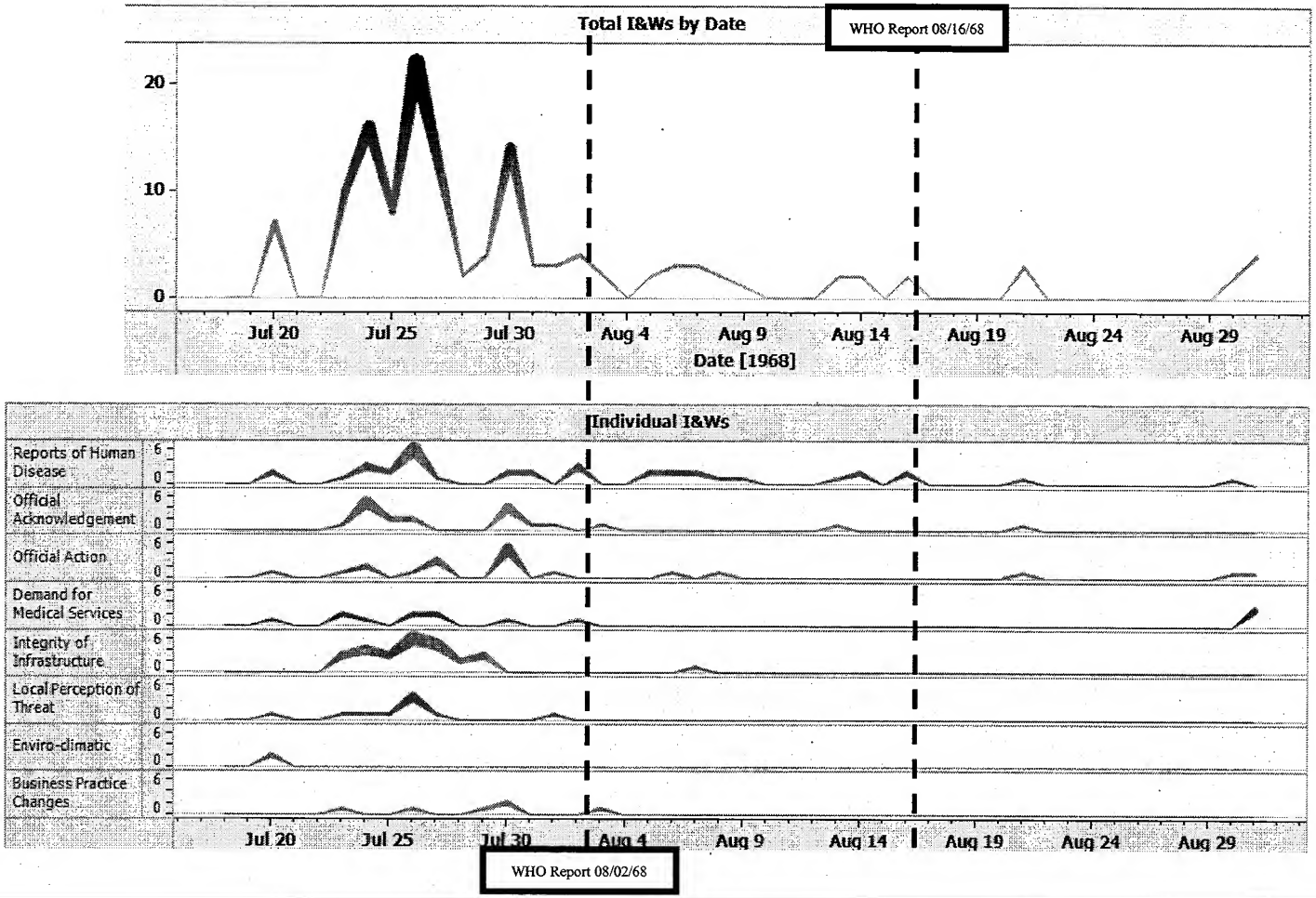

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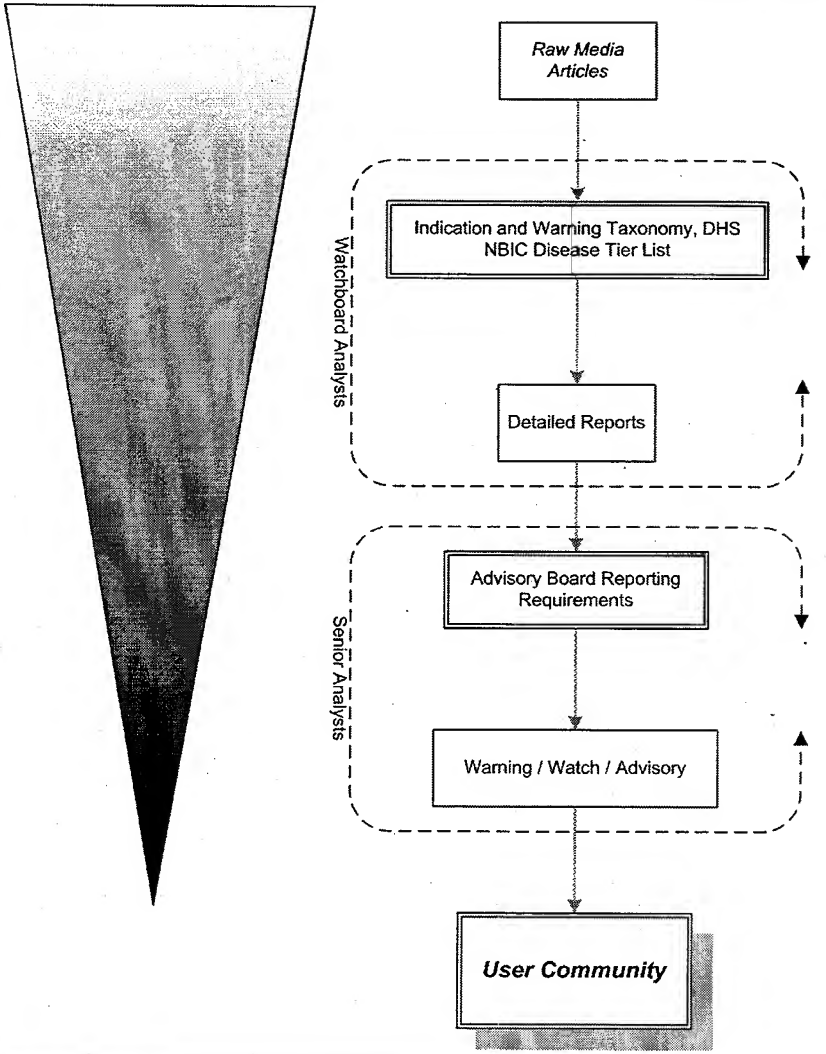
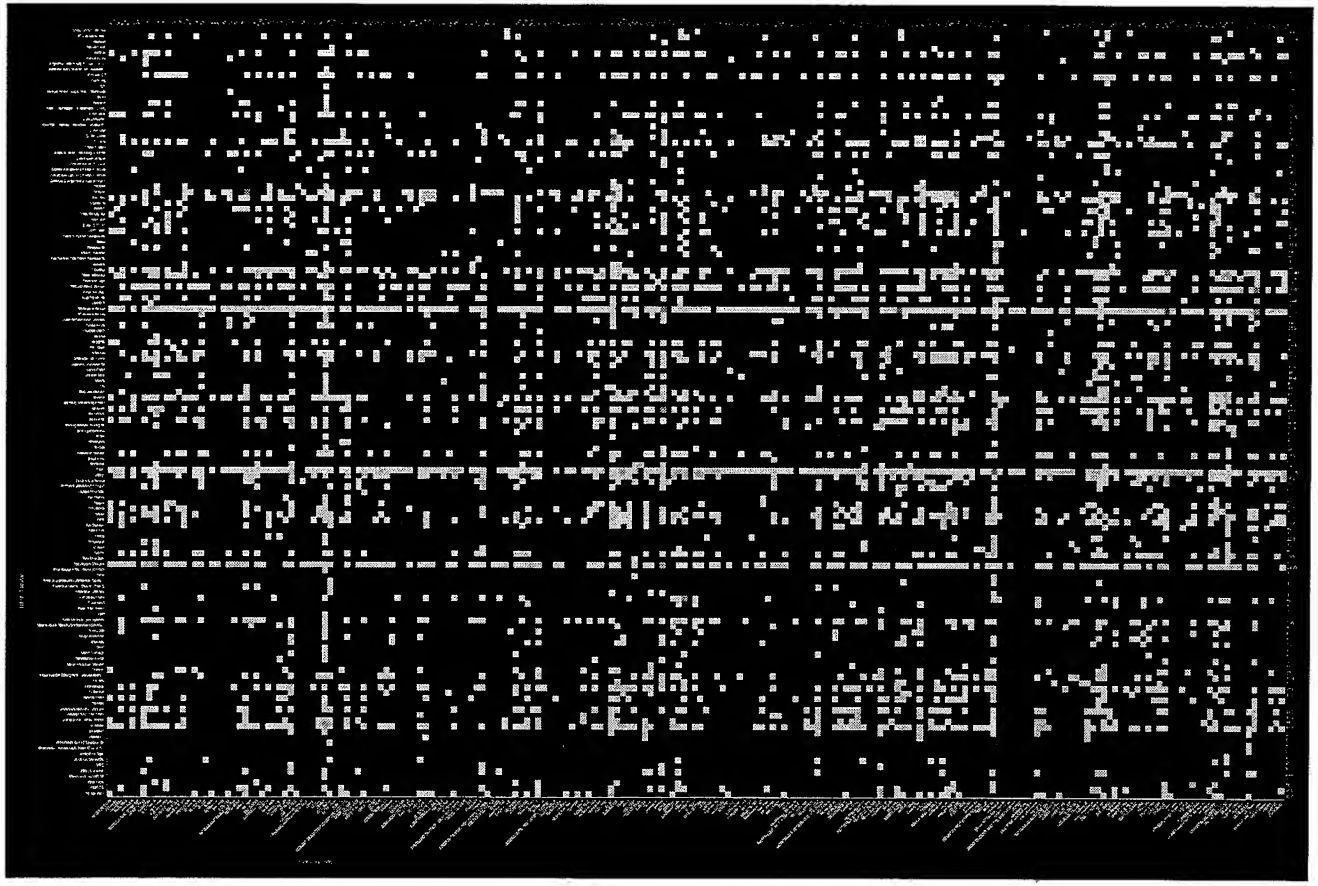


1,000,000 articles accessed in 36 languages

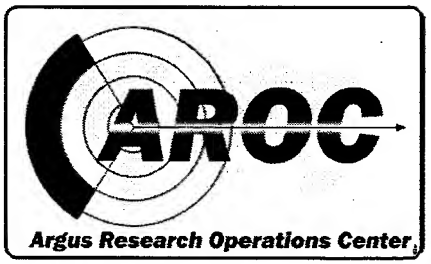
~30 country advisories

Argus: the Pulse of the Planet

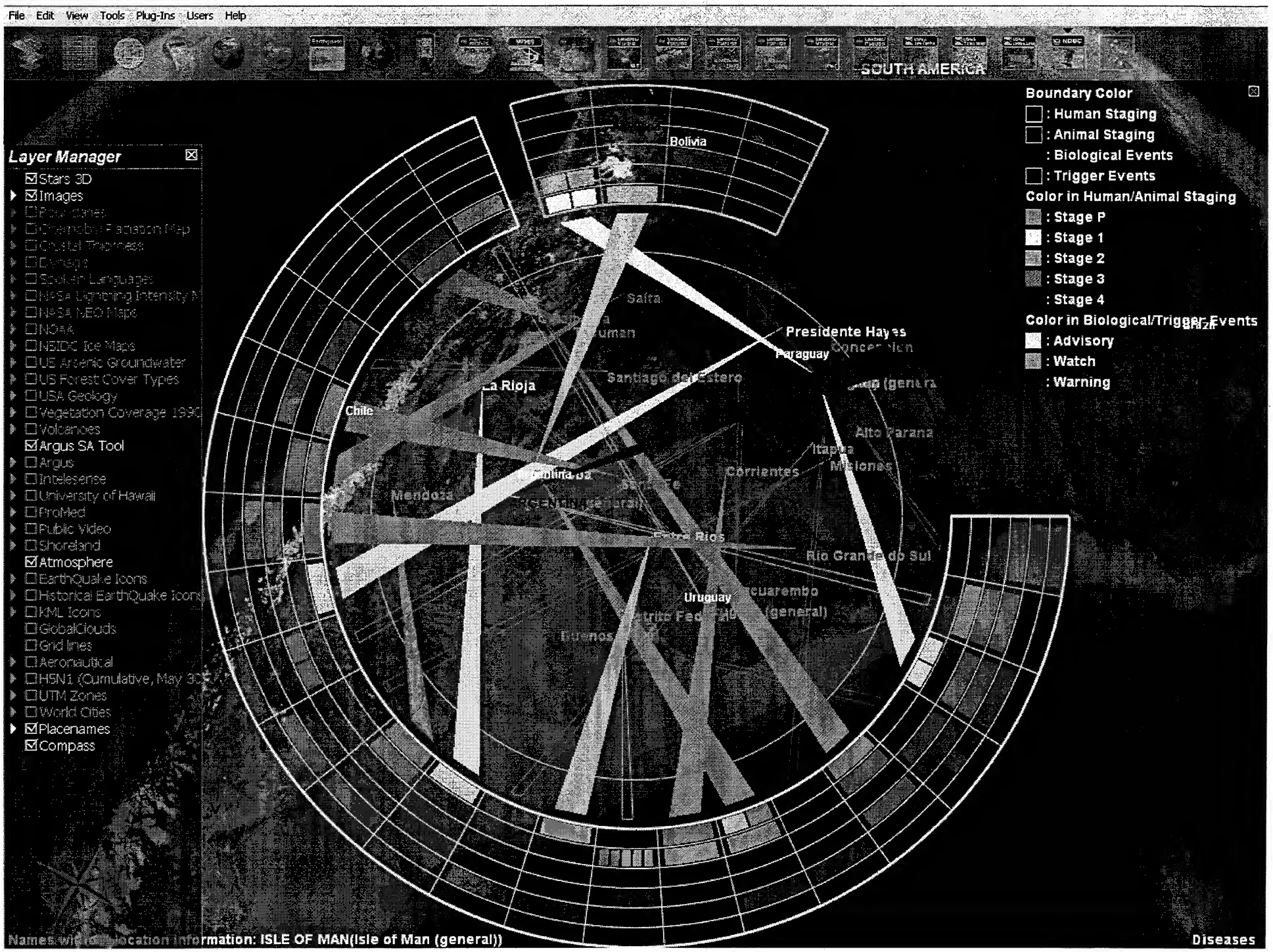
~15 months of data, 42k event reports, 140 disease entities, 175 countries, >2,250 provinces



Total Analytic Output: ILI Season, 2006-7



- 3,000 reports
- 127 countries
- 28 languages
- 300 country advisories
- 38 Warnings issued


File Edit View Tools Plug-Ins Users Help
SOUTH AMERICA
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Placenames
Compass
Boundary Color
: Human Staging
: Animal Staging
: Biological Events
: Trigger Events
Color in Human/Animal Staging
: Stage P
: Stage 1
: Stage 2
: Stage 3
: Stage 4
Color in Biological/Trigger Events
: Advisory
: Watch
: Warning
Bolivia
Salta
Presidente Hayes
Paraguay
La Rioja
Santiago del Estero
Chile
Alto Parana
Itapua
Misiones
Corrientes
Mendoza
Entre Rios
Rio Grande do Sul
Uruguay
Buenos
Names with location information: ISLE OF MAN(Isle of Man (general))
Diseases

Argus Watchboard

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Argus Watchboard™

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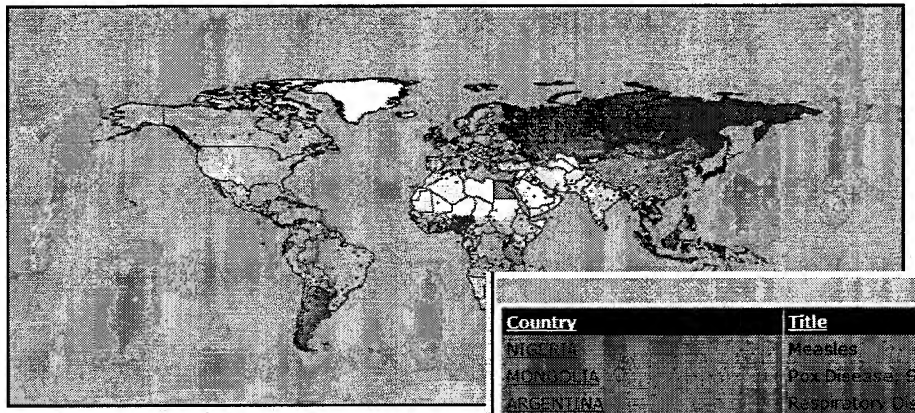
- Argus Watchboard Biological Event World Map -



Levels
- Warning
- Watch
- Advisory

- Biological Event Country Reports -

Country	Title	Date
NIGERIA	Measles	6/20/2007
MONGOLIA	Pox Disease, Suspicious Biological, Chemical Research	6/18/2007
ARGENTINA	Respiratory Disease, Bird Die-Off	6/22/2007
RUSSIA	Equine Influenza, Undiagnosed Disease, Alleged Intentional Poisoning	6/22/2007
INDONESIA	H5N1 Avian Influenza	6/23/2007
EGYPT	**H5N1 Avian Influenza**	**6/24/2007**
CHINA	Suspected Vaccine Failure	6/22/2007
CHILE	Respiratory Disease	6/19/2007
TANZANIA	Rift Valley Fever	6/19/2007
ECUADOR	Suspected Vaccine-Associated Illness	6/21/2007
CZECH REPUBLIC	H5N1 Avian Influenza	6/21/2007
RWANDA	Bird Die-Off	6/21/2007
BAHAMAS, THE	Bird Die-Off	6/21/2007
PANAMA	Undiagnosed Disease (Human, Bull); Bird Die-Off	6/21/2007
NEW ZEALAND	Respiratory Illness	6/22/2007
SENEGAL	Unexplained Deaths (Human)	6/18/2007
HONG KONG	H5N1 Avian Influenza	6/17/2007
BANGLADESH	H5N1 Avian Influenza	6/18/2007
ALGERIA	Undiagnosed Disease (Camels)	6/20/2007

Argus Research Operations Center (AROC), Washington DC

The below information is obtained through publicly available local media based upon socio-economic factors associated with a local or regional biological event. The assessment of each event is based upon identified social, economic, and geographic indicators contained in local media sources and additional analysis by Argus regional experts. This overview consists of the most serious biological events identified over the past 7 days throughout the world and is meant to provide a summary of these occurrences. For in-depth reporting and assessment of these events, as well as other emerging incidents, please refer to the section entitled "Event Listing".

Basic Information

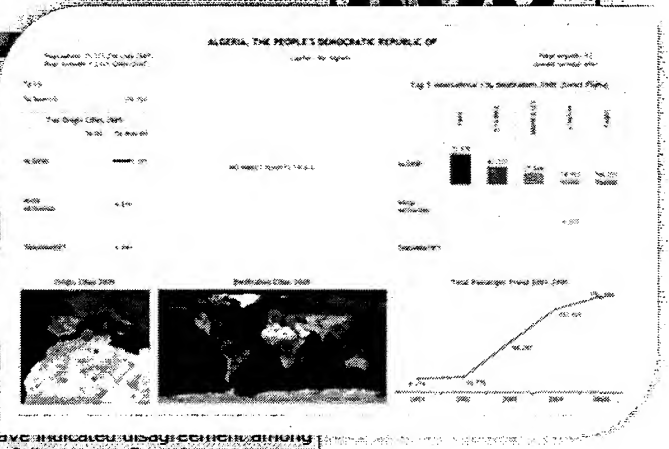
- Country **ALGERIA**
- Warning Level **Watch**
- Entity **Suspected H5N1 Avian Influenza, Undiagnosed Human Disease**
- Type Biological Alert Report
- Date 9/17/2007 3:47:42 PM

Recent Country Report Highlights

Date	Summary
9/17/2007	National news media continue to report on an undiagnosed human disease in Sidi Bel Abbes.
9/17/2007	International blog post suggesting H5N1 avian influenza as the possible etiology in Algeria.

Current Alert Events

Detail Info	Content
-SubTopic: Undiagnosed Human Disease -Date: 9/17/2007 3:47:20 PM -Source Overview: National: -Credibility: Medium -Economic Impact: False	National news media continue to report on an undiagnosed human d[illegible] affected approximately 100 people since 20 August. Media reports have indicated disagreement among health officials on the cause of illness as well as conflicting accounts of disease confirmation status. To date, 98 people presented with nephritis and have been released from the hospital. Several media outlets have highlighted that this is the first appearance of acute nephritis [implied] related to the disease in Algeria.
-SubTopic: Suspected H5N1 Avian Influenza -Date: 9/17/2007 3:46:05 PM -Source Overview: National:International: -Credibility: Low -Economic Impact: False	Since 11 September, Algerian media have reported an outbreak of tonsillitis affecting as many as 250 police and border agents in Bejaia. Diphtheria is considered the suspected cause, and symptoms described include fever, respiratory difficulties, sore throat (sometimes involving blocked airways), and stomachache. The Algiers Pasteur Institute has confirmed tonsillitis, although they have not reported a specific etiological agent. On 14 September, however, an international blog posted one article on this outbreak with a title suggesting H5N1 avian influenza as the possible etiology. The report does not provide any other indication of the presence of the disease.



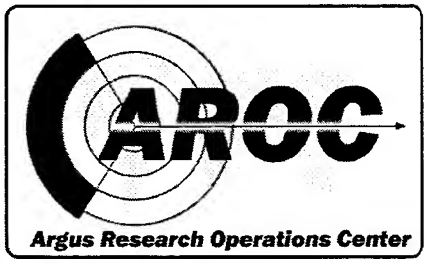
Air-Traffic Data for ALGERIA (2005).

AROC Note

Concerning the disease outbreak in Bejaia, media reports to date indicate that patients have presented with symptoms of fever and sore throat and state that most health officials believe the outbreak to be diphtheria, though food poisoning has also been suggested. Moreover, we do not consider the blog referenced above to be a highly credible source. While it is AROC's assessment that the symptoms described may be attributed to diphtheria or another upper respiratory pathogen, in the absence of a confirmed diagnosis, we are posting this report for advisement purposes. Note that neither AROC nor the OIE has recorded current H5N1 avian influenza outbreaks in Algeria.

Concerning the disease outbreak in Sidi Bel Abbes, due to conflicting media reports, AROC considers the illness in this area to be undiagnosed. To date, reports have indicated leptospirosis, an RNA virus of the Hantaan group of hantavirus, food poisoning, typhoid, and a previously undiscovered disease; it is unclear if one or any of the disease etiologies have been confirmed by the Pasteur Institutes in both Algeria and France. A recent report indicates that the illness remains undiagnosed and tests from a US laboratory are pending. AROC monitors the first appearance or reappearance of a pathogen in a country as it can often signify abnormal disease activity.

Acknowledgements



Our collaborators- Argus user community, InteleSense Technologies, Shoreland, AT&T, InteleWare, Sentriscape, UC-Davis, UMD, Colorado State Univ, NASA-GSFC, USAMRIID, and CHPPM